1 – 14 (Previously Cancelled)

15. (Currently amended) A nuclear fuel rod for a boiling water nuclear reactor, comprising:

a cladding tube, defining a closed inner space and which is manufactured from at least one of the materials in the group zirconium and a zirconium-based alloy, the material of the cladding tube comprising a plurality of sites in which hydrogen is capable of being adsorbed;

a plurality of nuclear fuel pellets, arranged in the inner space in the cladding tube so that the nuclear fuel pellets fill part of the inner space;

an initial fill gas arranged in the closed inner space in order to fill the rest of the inner space;

~~whereby~~ wherein the initial fill gas contains [[and]] a proportion of inert gas and a proportion of carbon monoxide, the carbon monoxide being located in the sites in which hydrogen is capable of being adsorbed, thereby blocking the sites; and wherein

the internal pressure (P_{fill}) of the initial gas in the nuclear fuel rod amounts to at least about [[2]] 7 bar (abs) at room temperature (T_R) and the proportion of carbon monoxide is at least [[4]] 4.7 volume percent of the initial fill gas; and

wherein the cladding tube has an inner surface that faces the inner space and the material in the cladding tube nearest the inner surface is pre-oxidized to provide a surface layer that comprises zirconium oxide; and

~~wherein the material of the cladding tube comprises sites capable of adsorbing hydrogen, the carbon monoxide of the initial fill gas being provided to block the sites~~.

16. (Cancelled)

17. (Previously Presented) A nuclear fuel rod according to claim 16, wherein the proportion of carbon monoxide constitutes at least 5 volume percent of the initial fill gas.

18. (Previously Presented) A nuclear fuel rod according to claim 17, wherein the proportion of carbon monoxide constitutes at least 6 volume percent of the initial fill gas.

19-23 (Cancelled)

24. (Previously Presented) A nuclear fuel rod according to claim 15, wherein the inert gas consists substantially of helium.

25. (Currently amended) A nuclear fuel assembly for a boiling water nuclear reactor, said nuclear fuel assembly comprising a plurality of nuclear fuel rods, each fuel rod including:

a cladding tube, defining a closed inner space and which is manufactured from at least one of the materials in the group zirconium and a zirconium-based alloy, the material of the cladding tube comprising a plurality of sites in which hydrogen is capable of being adsorbed;

a plurality of nuclear fuel pellets, arranged in the inner space in the cladding tube so that the nuclear fuel pellets fill part of the inner space;

an initial fill gas arranged in the closed inner space in order to fill the rest of the inner space;

~~whereby~~ wherein the initial fill gas contains a proportion of inert gas and a proportion of carbon monoxide, the carbon monoxide being located in the sites in which hydrogen is capable of being adsorbed, thereby blocking the sites; and wherein

the internal pressure (P_{fill}) of the fill gas in the nuclear fuel rod amounts to at least about [[2]] 7 bar (abs) at room temperature (T_R) and the proportion of carbon monoxide is at least [[4]] 4.7 volume percent of the initial gas; and

wherein the cladding tube has an inner surface that faces the inner space and the material in the cladding tube nearest the inner surface is pre-oxidized to provide a surface layer that comprises zirconium oxide; and

~~wherein the material of the cladding tube comprises sites capable of adsorbing hydrogen, the carbon monoxide of the initial fill gas being provided to block the sites~~.

26 – 29 (Cancelled)

30. (New) A nuclear fuel rod for a boiling water nuclear reactor, comprising:

a cladding tube, defining a closed inner space and which is manufactured from at least one of the materials in the group zirconium and a zirconium-based alloy, the material of the cladding tube comprising a plurality of sites in which hydrogen is capable of being adsorbed;

a plurality of nuclear fuel pellets, arranged in the inner space in the cladding tube so that the nuclear fuel pellets fill part of the inner space;

an initial fill gas arranged in the closed inner space in order to fill the rest of the inner space;

wherein the initial fill gas contains a proportion of inert gas and a proportion of carbon monoxide, the carbon monoxide being located in the sites in which hydrogen is capable of being adsorbed, thereby blocking the sites; and wherein

the internal pressure (P_{fill}) of the initial gas in the nuclear fuel rod amounts to at least about 6 bar (abs) at room temperature (T_R) and the proportion of carbon monoxide is at least 5.7 volume percent of the initial fill gas; and

wherein the cladding tube has an inner surface that faces the inner space and the material in the cladding tube nearest the inner surface is pre-oxidized to provide a surface layer that comprises zirconium oxide.

31. (New) A nuclear fuel assembly for a boiling water nuclear reactor, said nuclear fuel assembly comprising a plurality of nuclear fuel rods, each fuel rod including:

a cladding tube, defining a closed inner space and which is manufactured from at least one of the materials in the group zirconium and a zirconium-based alloy, the material of the cladding tube comprising a plurality of sites in which hydrogen is capable of being adsorbed;

a plurality of nuclear fuel pellets, arranged in the inner space in the cladding tube so that the nuclear fuel pellets fill part of the inner space;

an initial fill gas arranged in the closed inner space in order to fill the rest of the inner space;

wherein the initial fill gas contains a proportion of inert gas and a proportion of carbon monoxide, the carbon monoxide being located in the sites in which hydrogen is capable of being adsorbed, thereby blocking the sites; and wherein

the internal pressure (P_{fill}) of the fill gas in the nuclear fuel rod amounts to at least about 6 bar (abs) at room temperature (T_R) and the proportion of carbon monoxide is at least 5.7 volume percent of the initial gas; and

wherein the cladding tube has an inner surface that faces the inner space and the material in the cladding tube nearest the inner surface is pre-oxidized to provide a surface layer that comprises zirconium oxide.